# REMARKS

The Office Action dated January 26, 2005 has been received and carefully considered. Claims 1 and 48 have been amended to improve their form by replacing the term "tethered" with the term "coupled." These amendments do not narrow the scope of the claims. Reconsideration and withdrawal of the outstanding rejections is respectfully requested in view of the following remarks.

Obvious Rejection of Claims 1-6, 25, 39 and 36-52

At page 2 of the Office Action, claims 1-6, 25, 29 and 26-52 were rejected under 35 U.S.C. Section 103(a) as being unpatentable over Haartsen (U.S. Patent No. 6,393,007) in view of Persson (U.S. Patent No. 5,537,434). This rejection is respectfully traversed.

Claim 1, from which claims 2-6, 25, 29 and 36-41 depend, recites the limitations of a first transceiving unit to transmit voice information over a first dedicated set of time slots of a plurality of time frames and data information over a second dedicated set of time slots of the plurality of time frames. Similarly, claim 42, from which claims 43-47 depend, recites the limitations of transmitting voice information over a first dedicated set of time slots associated with a first plurality of time frames and transmitting data information over a second dedicated set of time slots. Claim 48, from which claims 49-51 depend, recites the limitations of a first transceiving unit operable to wirelessly receive voice information over a first dedicated set of time slots of a plurality of frames and data information over a second dedicated set of time slots of the plurality of time frames. Claim 52 recites similar limitations.

With respect to claims 1, 42, 48 and 52, the Examiner asserts Haartsen teaches that "voice information is transmitted over slot A(s) which are dedicated for voice information and data information is transmitted over slots d(s) [which] are dedicated for data information." *Office Action*, p. 7. For ease of reference, Figure 4 of Haartsen is reproduced below:
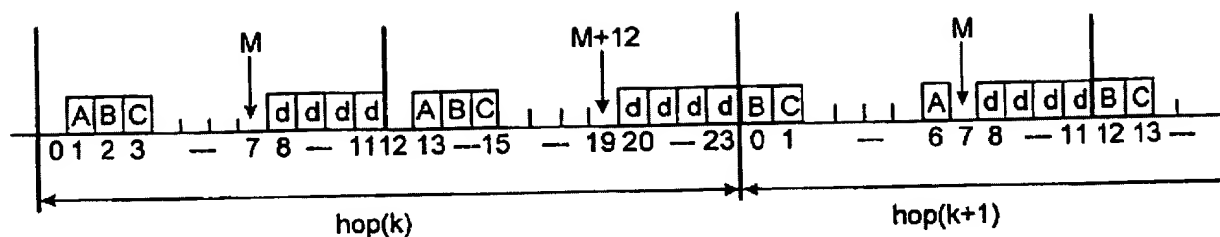
Haartsen, Figure 4

A) The Office Action Misconstrues the Term "Time Slot"

In view of the Examiner's statements and use of Figure 4 of Haartsen, the Applicants respectfully submit that the Examiner's interpretation of the term "time slot" is inconsistent with both the teachings of the present application and the understanding of one of ordinary skill in the art. As illustrated by Figure 8 of the present application, a time slot of a time frame has a fixed position within the time frame (e.g., slots 1-16 of the illustrated frame of Figure 8). *See also Present Application*, col. 13, line 16- col. 14, line 18. This use of the term "time slot" is consistent with the knowledge of one of ordinary skill in the art, as is demonstrated by Persson (which is cited by the Office Action). Figure 4 of Persson illustrates that frame n has 16 time slots, numbered time slots 0-15, and frame n+1 also has 16 time slots, which also are numbered time slots 0-15 in the same sequence as frame n, thereby demonstrating that a time slot is fixed in position from frame to frame. *See also Persson*, Figures 5-8. The related disclosure of Persson is consistent with Figures 4-8. *See Persson*, col. 9, line 36 – col. 13, line 15.

Haartsen also recognizes the proper use of the term "time slot" when describing "a plurality of sequential time slots forming a TDMA frame" (Haartsen, col. 3, line 35-36) but is otherwise inconsistent in the use of the term "time slot." Although Haartsen refers to elements "A" and "d" as time slots with respect to Figure 4, Haartsen also refers to elements A, B, and C as channels and identifies the locations of elements "A" and "d" by using slots 1-23. *See Haartsen*, Figure 4; *see also Id.*, col. 8, line 56 – col. 9, line 10. With respect to Figure 3 of Haartsen, which is similar to Figure 4, elements A, B and C are referred to as "communications channels A, B and C" and slots 0-23 are referred to as both "slot positions" and "slots." *See Haartsen*, col. 7, lines 59-60 and 64-65; see also Haartsen, col. 8, lines 12-23. As elements 1-23 are fixed in location and elements A, B, C are not fixed in location, elements 1-23 properly are

"time slots 1-23" and elements A, B and C properly are channels A, B and C in the context of the present disclosure and in view of the knowledge of one of ordinary skill in the art.

As element A of Figure 4 is not a "time slot" as is understood in the art but instead a channel, the Examiner's reliance on Haartsen's characterization of element "A" as a "time slot" that is "dedicated for voice information" (see Office Action, p. 7) finds no support in a proper interpretation of the teachings of Haartsen.

B)   Haartsen Fails to Disclose or Suggest Transmitting Voice Information Over a Set of Dedicated Set of Time Slots

In view of the proper use of the term "time slot," it is respectfully submitted that Haartsen teaches that the channels A, B and C (assigned to voice communication) "hop" to different slots in successive frames. To illustrate, Figure 4 of Haartsen depicts channel A "hopping" from time slot 1 in frame hop(k) to time slot 6 in frame hop(k+1). In broadly describing the disclosed technique, Haartsen indicates that

> Following the method according to the invention, the hopping of time slots in a TDMA frame is communication channel dependent. That is, instead of pseudo-randomly hopping the position of the time slots in a frame, i.e. the communication channels to which the time slots are allocated, in the method according to the invention, the hopping of time slots is controlled by the type of communication channel, such as a voice communication channel or a data communication channel. In a preferred embodiment of the method according to the invention, hopping of time slots between sequential frames is restricted to time slots allocated to voice communication channels, whereas time slots allocated to data communication channels occupy fixed positions in a frame.

Id., col. 3, line lines 42-55 (emphasis added).

Haartsen also provides that

> Following the method according to the invention, the time slots d allocated to data communication channels occupy a fixed position in the frame, whereas the [channels] A, B and C allocated to voice communication hop in position between subsequent frames. As shown in FIG. 4, voice communication channel A hops from time slot 1 in hop (k) to time slot 6 in hop (k+1), with respect to the first frame half, i.e. a hop length of 5 time shot positions.

In this example, voice time slots may not hop over data time slots, in order to maintain slot integrity and to prevent slot overlap. In the present example, the voice time slots wrap around time slot 6, such that with a time slot hopping length of 5 slot positions, voice communication channel B will hop from time slot 2 in

hop (k) to time slot 0 in hop (k+1), whereas voice communication channel C hops from time slot 3 in hop (k) to time slot 1 in hop (k+1). The same hopping scheme is applied to the voice communication time slots in the second half of each frame.

Haartsen, col. 8, line 60 – col. 9, line 10 (emphasis added).

Further, with respect to Figure 3, Haartsen provides that

Assuming that the time slot allocated to a particular communication channels hops over 10 slot positions between subsequent frames, communication channel A, which is at time slot position 1 during hop (k) will be at time slot position 11 at the next hop (k+1) etc. Likewise, transmission channel B will be shifted from time slot 2 to time slot 0 and communication channel C shifts to time slot 1, with respect to the Tx frame half. For the Rx frame half, in this example, the same hopping scheme is applied, i.e. hopping over ten slot positions, such to maintain a slot separation of twelve slots for a duplex channel in a frame.

Id, col. 7, line 60 – col. 8, line 4 (emphasis added).

Thus, as Figures 3 and 4 and the cited passages illustrate, Haartsen discloses a technique whereby voice communication channels hop time slots between successive frames. *Id.* In contrast, claims 1, 42 and 48 recite limitations directed to the transmission or reception of voice data via a dedicated set of time slots over a plurality of time frames. As the time slots used by the voice channels are intentionally changed from frame to frame in the disclosure of Haartsen, Haartsen not only fails to disclose or suggest a dedicated set of time slots of a plurality of time frames for the transmission voice data as recited by claims 1, 42 and 48, Haartsen teaches away from these claim limitations due to the time slot "hopping" nature of the voice communication channels in the technique disclosed by Haartsen.

C) Claims 1, 42, 48 and 52 are Not Obvious in View of the Proposed Combination of Haartsen and Persson

As established above, the Office Action fails to establish that Haartsen discloses or suggest at least the limitations of the transmission of voice data over a first dedicated set of time slots associated with a plurality of time frames as recited by claims 1, 42, 48 and 52. Moreover, the Office Action does not assert that Persson discloses or suggests these limitations. Accordingly, the Office Action fails to establish that the proposed combination of Haartsen and Persson discloses or suggests each and every limitation of claims 1, 42, 48 and 52, as well as claims 2-6, 25, 29 36-41, 43-37 and 49-51 at least by virtue of their dependency from one of claims 1, 42 or 48.

In view of the foregoing, it is respectfully submitted that the obviousness rejection of claims 1-6, 25, 29 and 36-52 is improper at this time and the withdrawal of this rejection therefore is respectfully requested.
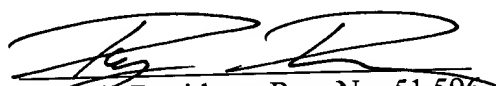
Conclusion

The Applicants respectfully submit that the present application is in condition for allowance, and an early indication of the same is courteously solicited. The Examiner is respectfully requested to contact the undersigned by telephone at the below listed telephone number in order to expedite resolution of any issues and to expedite passage of the present application to issue, if any comments, questions, or suggestions arise in connection with the present application.

The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 01-0365.

Respectfully submitted,

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Date

Ryan S. Davidson, Reg. No. 51,596,
On Behalf Of
J. Gustav Larson, Reg. No. 39,263,
Attorney for Applicant(s)
TOLER, LARSON & ABEL, L.L.P.
5000 Plaza On The Lake, Suite 265
Austin, Texas 78746
(512) 327-5515 (phone) (512) 327-5452 (fax)